

MDE_TRIMBLE_1601_MPEb
FCC ID JUP-WCSNM941
IC ID: 1756A-SNM941

Maximum Permissible Exposure

as specified in Table 1B of 47 CFR 1.1310 – Limits for Maximum Permissible Exposure (MPE), Limits for General Population/Uncontrolled Exposure

Frequency range (MHz)	Power density (mW/cm ²)
300 – 1,500	f/1500
1,500 – 100,000	1.0

Limits specified per RSS-102, Issue 5.

Frequency range (MHz)	Power density (W/m ²)	Power density (mW/cm ²)
300 – 6000	0.02619 f ^{0.6834}	mW/cm ² = W/m ² * 0.1

Calculations

The output power at antenna input terminal:

Prediction frequency 1(PF 1) (P): 20MHz BW - 2412 MHz @ 15.8 dBm

Prediction frequency 2(PF 2) (P): 40MHz BW - 2422 MHz @ 15.6 dBm

Antenna gain(G) @ 2.4GHz: 5.0dBi

Prediction distance R: 20 cm

MPE limit S: 1 mW/cm²

Equation OET bulletin 65, page 18, edition 97-01:

$$S = \frac{PG}{4\pi R^2} = \frac{EIRP}{4\pi R^2}$$

S = power density

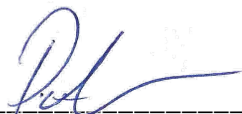
P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the centre of radiation of the antenna (20cm)

			G		P		S					
Operational Bands	Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain -numeric- (mW/cm²)	Output Power -conducted- (dBm)	Output Power -conducted- (mW)	IC Limit (mW/cm²)	FCC Limit (mW/cm²)	Power Density value (mW/cm²)	Margin to FCC Limit (mW/cm²)	Margin to IC Limit (mW/cm²)	Minimum Distance to be ensured cm (FCC)	Minimum Distance to be ensured cm (IC)
UNII Subband 1 (20 MHz)	5220	6.7	4.6774	11.10	12.88	0.9095	1.00	0.0120	0.9880	0.8975	2.1898	2.2961
UNII Subband 1 (40 MHz)	5190	6.7	4.6774	10.20	10.47	0.9059	1.00	0.0097	0.9903	0.8962	1.9742	2.0742
UNII Subband 3 (20 MHz)	5745	6.7	4.6774	10.10	10.23	0.9710	1.00	0.0095	0.9905	0.9615	1.9516	1.9805
UNII Subband 3 (40 MHz)	5755	6.7	4.6774	8.90	7.76	0.9722	1.00	0.0072	0.9928	0.9650	1.6998	1.7239
2402-2480 MHz BT LE	2442	4.5	2.8184	1.90	1.55	0.5412	1.00	0.0009	0.9991	0.5403	0.5894	0.8012
2402-2480 MHz BT	2442	4.5	2.8184	11.60	14.45	0.5412	1.00	0.0081	0.9919	0.5330	1.8005	2.4476
2412-2462MHz WLAN (20 MHz)	2442	4.5	2.8184	22.40	173.78	0.5412	1.00	0.0974	0.9026	0.4437	6.2430	8.4866
2412-2462MHz WLAN (40 MHz)	2442	4.5	2.8184	21.90	154.88	0.5412	1.00	0.0868	0.9132	0.4543	5.8938	8.0119

Yours sincerely



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